

REMARKS

The present Amendment amends claims 1, 2, 4-6 and 8-11 and leaves claims 3 and 7 unchanged. Therefore, the present application has pending claims 1-11.

Claims 1, 2, 4-6 and 8-11 stand rejected under 35 USC §103(a) as being unpatentable over Kodama (U.S. Patent No. 6,374,262) in view of Nakai (U.S. Patent No. 5,954,803) in view of Mullen (U.S. Patent No. 6,272,544); and claims 3 and 7 stand rejected under 35 USC §103(a) as being unpatentable over Kodama in view of Nakai and Mullen and further in view of Kawagoe (U.S. Patent No. 6,438,563). These rejections are traversed for the following reasons. Applicants submit that the features of the present invention as now recited in claims 1-11 are not taught or suggested by Kodama, Nakai, Mullen or Kawagoe whether taken individually or in combination with each other as suggested by the Examiner. Therefore, Applicants respectfully request the Examiner to reconsider and withdraw these rejections.

Amendments were made to each of the claims so as to more clearly describe features of the present invention. Particularly, amendments were made to the claims to more clearly recite that update data is extracted according to preferential order information in such a manner that the update data with higher preferential order is extracted earlier than the update data with lower preferential order.

Thus, by use of the above described features of the present invention when copying the update data of a master database into a replica, preferential order information is used indicating a preferred order of updating either one of a specific database table, preferential table columns and preferential keys of a column with respect to update data of the master database on the replica. Further, according to

the present invention update data is extracted according to the preferential order information in such a manner that the update data with higher preferential order is extracted earlier than the update data with lower preferential order.

The above described features of the present invention now more clearly recited in the claims are not taught or suggested by any of the references of record particularly Kodama, Nakai, Mullen and Kawagoe whether taken individually or in combination with each other as suggested by the Examiner.

As argued in the Remarks of the November 17, 2003 Amendment, said Remarks being incorporated herein by reference, there are numerous differences between the features of the present invention and the references of record particularly Kodama, Nakai, Mullen and Kawagoe.

Kodama merely discloses a technique where the update data of a master database is copied onto a replica. This teaching of Kodama is merely the conventional technique where the update data of a master database is copied onto a replica. However, there is no teaching or suggestion in Kodama of the features of the present invention as recited in the claims wherein a database system copies the specific update data preferentially to a replica.

Kodama extracts update data from master data while also extracting update data from replica data. Kodama teaches that the update data extracted from the master data is data not yet reflected on the replica, whereas the update data extracted from the replica is data not yet reflected on the master data. That is to say, Kodama extracts update data to merely synchronize the master data with the replica data. For this purpose, Kodama classifies data simply by their update time in such a manner that the update data reflected earlier than a certain time is classified as

reflection completed data while the update data reflected later than the certain time is classified as reflection-uncompleted data.

The present invention as recited in the claims determines the order of reflection of the update data by the logical attribute to which the data belongs, such as a table, a table column or a key of a column rather than the physical time stamp attached to each data. That is, the present inventions does not reflect, nor classify each update data by its update time.

In the Office Action, the Examiner alleges that Kodama has an allocation unit for selectively extracting the update data according to the preferential order information. However, it is evident that Kodama simply extracts the update data necessary for reflecting to another database to correct data that may be out of synchronization. Thus, Kodama's purpose lies in synchronizing the master data with replica data. Because the update data that Kodama extracts is not data extracted based on the logical attribute to which the data belongs, Kodama teaching of "selectively extracting the update data" has a meaning completely different from the extracting means as recited in the claims.

Thus, as is quite clear from the above, the features of the present invention as now more clearly recited in the claims are not taught or suggested by Kodama. Particularly, Kodama fails to teach or suggest storing preferential order information indicating a preferred order of updating either one of a specific database table, preferential table columns and preferential keys of a column with respect to update data of said master database on said replica as recited in the claims.

Further, Kodama fails to teach or suggest extracting the update data according to the preferential order information in such a manner that the update data

with higher preferential order is extracted earlier than the update data with lower preferential order as recited in the claims.

Nakai et al discloses a DMA controller which controls memory-to-memory data transfer. The DMA controller taught by Nakai has a storage section for storing the order of preference with respect to a plurality of data-transfer operations using the DMA process. Nakai determines the execution order among a plurality of data-transfer operations according to the order of preference.

Nakai's data transfer operation is a data transfer carried out between memories or between memory and I/O device. A plurality of data-transfer operations under control of the DMA controller are a plurality of data streams each physically independent from others with no relation among those data-transfer operations. Therefore, Nakai's DMA controller merely conducts preferential control among a plurality of data-transfer operations. Nakai has, unlike the present invention, no concept that a controller classifies update data belonging to a single data stream in accordance with the logical attribute of the update data and change the arrangement of the update data positioned in the data stream.

In the Office Action, the Examiner alleges that Nakai in col. 5, lines 41-43 teaches the preferential order information. But this preferential order information is information that is used for conducting priority control among a plurality of data-transfer operations, among a plurality of channels (Abstract; col. 5, lines 38-39) not preferential order information that indicates a preferred order of updating a specific database table as in the present invention as recited in the claims.

Thus, Nakai fails to teach or suggest the features of the present invention as now more clearly recited in the claims. Particularly, Nakai fails to teach or suggest

storing preferential order information indicating a preferred order of updating either one of a specific database table, preferential table columns and preferential keys of a column with respect to update data of said master database on said replica as recited in the claims.

Further, Nakai fails to teach or suggest extracting the update data according to the preferential order information in such a manner that the update data with higher preferential order is extracted earlier than the update data with lower preferential order as recited in the claims.

Mullen teaches that each of service classes of a server provides a preferential order and allocates server resources in accordance with the indicated service class. Mullen discloses only ranking service classes. There is no teaching or suggestion in Mullen concerning a database table, a table column or preferential keys of a column.

The Examiner alleges that Mullen's Fig. 7 and Fig. 8 teaches preferential table columns and preferential keys of a column. However, this teaching of Mullen regarding service classes have no relation whatsoever with a database as in the present invention.

Thus, as is clear from the above Mullen fails to teach or suggest the features of the present invention as recited in the claims. Particularly, Mullen fails to teach or suggest the storing of preferential order information indicating a preferred order of updating either one of a specific database table, preferential table column and preferential keys of a column with respect to update data of a master database on a replica as recited in the claims.

Further, Mullen fails to teach or suggest extracting the update data according to the preferential order information in such a manner that the update data with

higher preferential order is extracted earlier than the update data with lower preferential order as recited in the claims.

Thus, as is quite clear from the above, each of Kodama, Nakai and Mullen suffers from the same deficiencies relative to the features of the present invention as now more clearly recited in the claims. Therefore, combining Kodama with Nakai and Mullen in the manner suggested by the Examiner in the Office Action still fails to teach or suggest the features of the present invention as now more clearly recited in the claims. Accordingly, reconsideration and withdrawal of the 35 USC §103(a) rejection of claims 1, 2, 4-6 and 8-11 as being unpatentable over Kodama in view of Nakai and Mullen is respectfully requested.

Kawagoe teaches a database that includes management information and database identifiers indicating the update history of the management information. The database identifiers are supposed to be a version showing a number of record update times. The identifiers are used for synchronizing a master database with its back-up database. Hence, Kawagoe is not concerned with a database system that favors specific update data based on the use history of replica.

Thus, as is quite clear from the above, Kawagoe does not supply the features alleged by the Examiner to be taught therein. Particularly, Kawagoe does not teach or suggest storing preferential order information indicating a preferred order of updating either one of a specific database table, preferential table columns and preferential keys of a column with respect to update of the master database on the record as recited in the claims.

Further, Kawagoe fails to teach or suggest extracting the update data according to preferential order information in such a manner that the update data

with higher preferential order is extracted earlier than the update data with lower preferential order as recited in the claims.

Thus, Kawagoe does not supply any of the deficiencies noted above with respect to each of Kodama, Nakai and Mullen and the combination thereof. Therefore, combining Kawagoe with Kodama, Nakai and Mullen in the manner suggested by the Examiner in the Office Action still fails to teach or suggest the features of the present invention. Accordingly, reconsideration and withdrawal of the 35 USC §103(a) rejection of claims 3 and 7 as being unpatentable over Kodama, Nakai, Mullen and Kawagoe is respectfully requested.

The remaining references of record have been studied. Applicants submit that they do not supply any of the deficiencies noted above with respect to the references utilized in the rejection of claims 1-11.

In view of the foregoing amendments and remarks, Applicants submit that claims 1-11 are in condition for allowance. Accordingly, early allowance of claims 1-11 is respectfully requested.

To the extent necessary, the applicants petition for an extension of time under 37 CFR 1.136. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, or credit any overpayment of fees, to the deposit account of Antonelli, Terry, Stout & Kraus, LLP, Deposit Account No. 01-2135 (520.39413X00).

Respectfully submitted,

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A handwritten signature in black ink, appearing to read 'Carl I. Brundidge', is written over a horizontal line.

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